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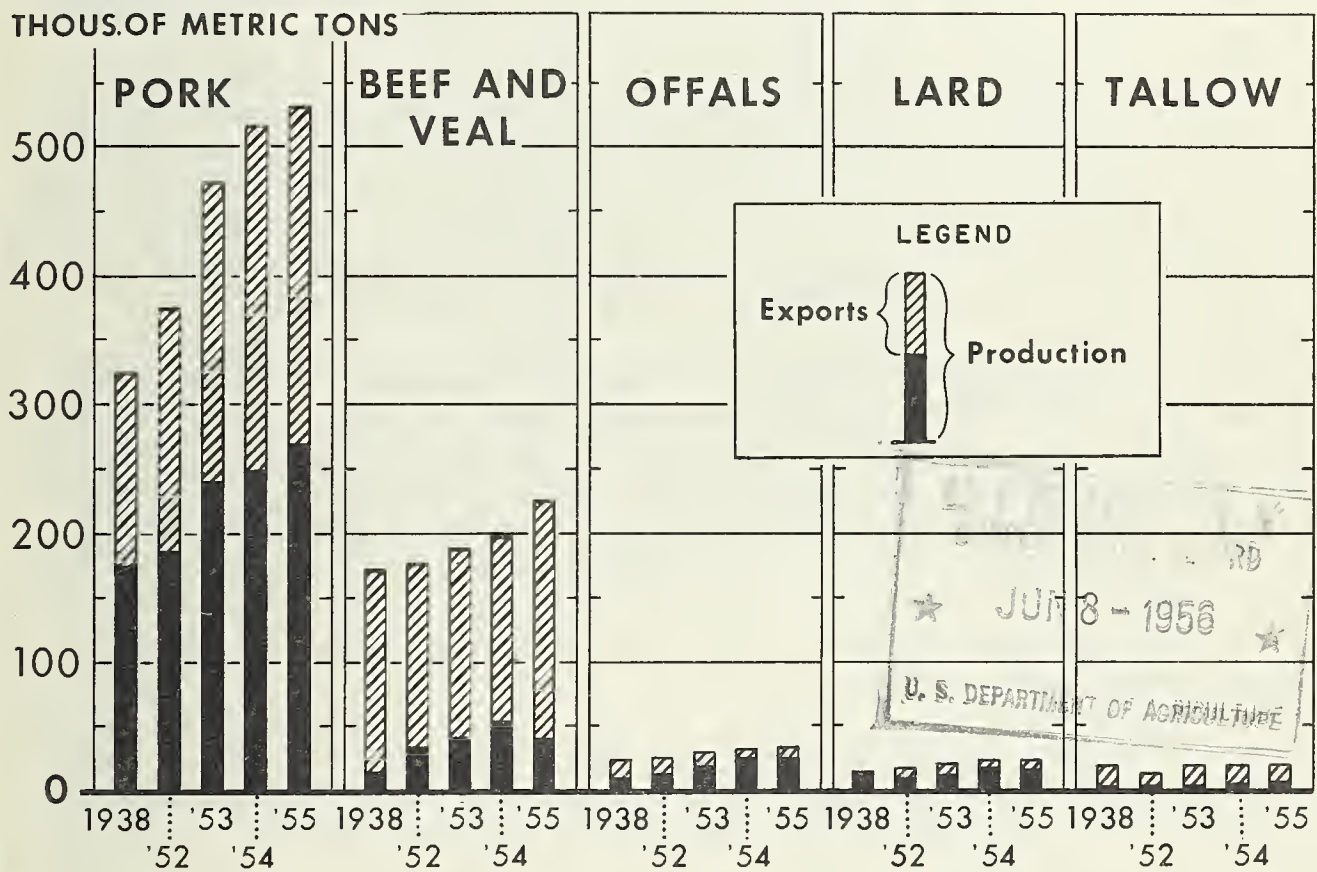
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THE IMPORTANCE OF THE DANISH LIVESTOCK AND MEAT PRODUCTS INDUSTRY IN INTERNATIONAL TRADE

DENMARK: PRODUCTION AND EXPORTS OF MEAT AND MEAT PRODUCTS 1938 AND 1952-55



1. Natural Resources and Good Managment Contributing to Livestock Production

1. Suitability of the Country from the Standpoint of Land and Climatic Conditions.

The soils of Denmark are of average fertility and the climate, although not of the best, is very suitable for animal husbandry. Considerable cost is involved in improving the physical condition as well as the fertility of the soil. Drainage of soil and application of fertilizers are farm improvements extensively practiced by Danish farmers. Two important characteristics about Denmark are the natural uniformity of physical and climatic conditions throughout the country. These conditions have led to a degree of standarization in farming and farm practices which are not possible in most parts of Europe.

2. Highly Productive Breeds

The small size of livestock farms and the keen competition for European markets makes it extremely difficult for Denmark to compete successfully unless the latest and most intensive methods of production and marketing are adopted. Because of the keen competition Denmark perhaps have developed one of the most efficient and highly productive livestock industries. Progeny testing of hogs, cattle and poultry have been carried on in Denmark for many years. The Danish practice of continous improvement of a single breed of hogs by means of progeny testing and other measures has led to a uniformity which is not evident in the U. S. where several different breeds exist.

The result of the Danish breeding and selection policy for example has been the increasing dominance of the "landrace" breed of hogs. About 90 percent of all Danish hogs are of this breed at the present time. The Danish hog progeny testing stations have proved that fodder requirements for this type of hogs have been about 50 Feed Units 1/ per animal, based on a total production of million hogs per year. This would be a saving in feed stuffs of 200,000 to 250,000 tons per year. Returns from the Danish Agricultural Societies show that in recent years feed consumption has decreased by 30 to 40 Feed Units 1/ per hog.

By better breeding and selection of animals, improved feeding and herd management practices the Danish producer has been able to develop livestock and meat products that more fully meet consumers requirements.

3. Good Management Practices

1/ The food value of 1 lb. of barley grain is taken as the standard.

The importance of small farms in Danish agriculture cannot be over-emphasized. About 65 percent of the farms are of small holdings with less than 37 acres. These farms occupy 27 percent of the agricultural land in Denmark, but produce 35 percent of the cows and hogs and 50 percent of the poultry. Their share in the production of livestock products is probably a little larger than these percentages indicate.

It is estimated that almost 70 percent of all milk produced in the country is used for butter manufacturing and the skim milk is brought back to the farm and fed to the hogs. Hogs in Denmark represent an essential segment of a uniform and intensive farming system. The practice of feeding skim milk supplemented with concentrates has become one of the most important factors in increasing Danish hog production.

The importance of the livestock industry is reflected in the use of agricultural land. About 40 percent of the land is in grain production, 40 percent in pastures and 15 percent in forage crops. Such a cropping system normally provides ample forage and a considerable quantity of concentrates for the livestock industry, but much additional concentrates are imported.

Unlike other kinds of farm enterprises the success of the livestock industry is closely associated with good care of the animals. This is possible because of the availability of farm family labor or other farm labor.

4. Highly Developed Marketing Facilities

In line with the well developed livestock industry Denmark also has a highly developed marketing system. The cooperatives which are actively engaged in almost all phases of production and improvement of livestock are also closely associated with product standardization and marketing of livestock products. The marketing of the farm products is handled very efficiently by the cooperatives resulting in the largest possible returns to the producers.

Denmark is well known for its cooperatives. The cooperative institutions provide every form of service to the members. About 90 percent of the hogs are sold through the cooperatives. There is no doubt that cooperation has played a very large part in the development of efficient marketing and the creation of an effective market intelligence service. In addition the cooperatives have been a strong influence in the development of the Danish livestock breeding policy and in providing reasonably priced breeding animals to farmers.

The Danish system of marketing livestock, meat and meat products is perhaps one of the most efficient in the World. Cooperation has become almost a way of life and almost all services to the farmers such as purchase and sale of most goods are handled through cooperatives.

The cooperative slaughter houses and their export plans have contributed substantially to the success of the hog industry. The central organization which handles slaughter, processing and sales of pork and pork products is known as the Federation of Danish Cooperative Bacon Factories. It promotes trade, and handles matters of joint interest such as legislation, transportation, marketing agreements, breed improvement and production. Although this federation is not directly engaged in business operations, it has close working relations with the Bacon Factories Sales Organization. This organization is composed of both cooperative and non-cooperative bacon factories. It handles sales, trade negotiations and all other business matters in connection with bacon and pork by-products.

For the export of cattle similar cooperative institutions were founded which handle more than 40 percent of all Danish cattle shipments. The Danish cattle and beef export organization was established to assure farmers reasonable prices for their products. In addition to the marketing organizations there also are cooperatives engaged in purchasing of feeds, fertilizers, machinery and seed. It is estimated that the cooperatives import about 55 percent of the nation's total imports of feed.

The export of livestock and meat is substantial and its contribution to the total economy of the country is most significant. In 1955 the export of livestock and meats exclusive of dairy and egg products provided 34 percent of the foreign trade earnings. The most important customers were the United Kingdom and Western Germany which together took 50 percent of the livestock (excluding poultry) and 20 percent of the meat exports. The United States, the third largest customer, accounted for 6.4 percent of the Danish exports in 1955 compared with 9.3 percent in 1954.

5. High Quality Products

In addition to meeting the demands for specialized products the Danes have developed a high quality product, which has enabled them to maintain their markets. The Danish farmer, operating in a highly competitive atmosphere, has no alternative but to study his market and produce the best possible product for it. Prices received by the farmers are strictly on the basis of meeting market standards. There are three grades of hogs which are acceptable to the slaughter houses. There is a penalty for underweight or overweight hogs. Hog producers have to meet the standards set by farmer marketing cooperatives. It is this high uniform quality product which has led to a preference for Danish livestock products over those produced by other countries.

6. Strategically Located with Respect to Market Outlets.

Denmark is ideally located because of the availability of various types of low cost transportation facilities and nearness to large consumer areas. This means that the products can be brought to the consumer relatively fast without deterioration or alteration in the quality. These factors have

contributed to the phenomenal expansion of the livestock industry.

Most countries prefer to import live animals which they can slaughter locally thereby enabling them to use most of the by-products as well as provide them with fresh or chilled meat. The low cost shipping facilities to almost all parts of Europe makes the sale of live animals more favorable for Denmark than for other meat exporting countries.

II. National Economic Limitation:

1. Dependence on Outside Sources for Feed Concentrates

About 76 percent of the total land area in Denmark is devoted to agriculture of which about 88 percent is utilized for feed production. Despite the large production of feed Denmark still depends largely on the import of concentrates from abroad to support the expanded livestock industry.

In normal times Denmark imports about one-third of the protein feeds for the feeding of livestock. During 1955 it was estimated that 250,000 tons of grain had to be imported for feed. This is in addition to oil cakes and meals which are also imported in large quantities.

2. Limited Possibilities for Industrialization - Lack of Raw Materials

The essential raw materials needed for industrialization are lacking in Denmark. Raw materials have to be imported. Also the country is surrounded by countries whose industrialization has been highly developed and which have adequate raw materials. The competition under such conditions is too keen to encourage intensive industrialization.

3. Limited Local Markets

Denmark with her small population and lack of raw materials cannot support intensive industrialization and would always need to depend on foreign markets for the sale of its livestock products.

In 1955 only one-third of the meat produced was consumed locally, the remainder was exported. This is an indication of the meat industry dependence on the markets of the highly industrialized countries.

4. Heavy Dependence on Agricultural Exports

One-fifth of the Danish population is engaged in farming. In other words there are two acres of land per person in Denmark which produces sufficient food for the population and considerable supplies are available for the export market. The economic situation has forced the Danish farmer to become very competitive and has compelled him to devise methods for increasing his efficiency and assuring survival.

The large number of small farm owners has become a political factor to be reckoned with in Denmark. A large turnover of livestock products in relation to the size of their farms is an economic necessity to assure the

occupants a living. For political and social reasons the Danish Government must, therefore, be concerned with creating conditions that will make it possible for the small holders to exist. Dependence on imported feed is a serious problem to producers of livestock. Large feed imports give the necessary support to the industry as well as assures a greater degree of political stability.

III. Government Policies

1. Production policies

The production policies are closely geared to the market demand. The whole marketing system and production are so well coordinated with the market demands that expansion and curtailment can easily be adjusted to the changing market situation with a minimum of loss. The products which are produced and exported are mainly of livestock origin which demand considerable labor. Because of the size of the farm units and the efficient utilization of family labor the cost of production as a rule is low.

Any formulation and implementation of Agricultural policy in Denmark is largely a role assumed by the voluntary farm and cooperative organizations. These organizations are powerful and influential in effecting any government decision. As a rule the farm-policies originate from the farm organizations and the Agricultural Council, the latter represents almost all cooperative marketing organization and the general Farmer Association. The Ministry of Agriculture is concerned, primarily, with the execution of laws and with regulatory functions. On the basis of the national economy there is a definite attitude of protectionism with regard to Danish Agriculture very similar to that in existence in most European countries.

When the demand for Danish farm products on the foreign market is unfavorable Danish farmers have the possibility of launching from within their organizations a subsidy program. This is a plan which would require the Danish consumer to pay a higher price for that portion of the total agricultural output which enters into domestic consumption channels. Government supports are implemented in a manner that seldom can be detected. The support takes the form mainly of direct loans and grants to producers for various agricultural improvements such as fertilizing, liming, draining, etc. Supports of this type make up a substantial portion of the cost of production. These supports are in addition to the contributions made for research, agricultural education and extension. Also the various Farmer's Association and small Holders Association which are supported by the government as a rule provide the farmers with inexpensive services such as breeding, breed improvement, cooperative buying and selling, credit and providing educational and training facilities. Feed grain organizations, partly controlled by the government determine the granting of license for grain imports, oil cakes and meals. Such organizations set the price and the profit margin to the dealers.

There is no government directive or regulation as to use of land or the use of other factors of production in agriculture. The producer is bound to follow the market demands and the marketing regulations set by his organization. There are no production goals, marketing quotas, area restrictions, etc.

Unlike other European countries where guarantee of farm prices and farm income is generally settled in advance, in Denmark, there are no such guarantees and the income of the farmer depends on receipts from domestic and export markets.

2. Marketing Policies

The Danes, in advance of their increased production, are assured long-time markets for their products through trade agreements. Denmark has extensive bilateral trade agreements with many countries, which are interested in purchasing Danish export products. Denmark is not too keenly interested in short-term market or markets which are not of permanent nature. The aim is to establish and hold the markets which year after year will assure uninterrupted production and continuous export outlets.

In 1955 Denmark had bilateral trade agreements with more than 28 countries. With few exceptions, these bilateral trade agreements were concluded for a one year period and some of them provide for automatic renewal. Most of the agreements regulate payments between Denmark and the pertinent countries.

Credit facilities are used more widely in Denmark than in any other European country. Cooperative institutions provide the bulk of the mortgage loans. Credit is readily available from cooperatives for almost all kinds of farm activities and operations.

Both the United Kingdom and Western Germany, which are the largest markets for Danish livestock, meat and meat products, give preferential treatment to Denmark primarily to assure uninterrupted supplies. Also other European countries, members of OEEC, give preferential treatment to Denmark as a result of the general agreement.

Another important factor which has contributed to Denmark's maintaining its markets is the quality of her products. Consumers who have developed a special preference for Danish products resent changes to products from other sources.

Many of the neighboring countries have been the traditional markets for Danish livestock products. For example the United Kingdom has been the traditional market for Danish bacon and the Danes have built up their hog industry almost entirely to meet the demands of the British consumer. Germany has always been a good market for live hogs and cattle. (Table I).

With the tremendous increase in livestock production, Denmark had to find new markets for its surpluses. In recent years the USSR has been one

of the markets, and even South American and Caribbean countries have been importing Danish hams, lard and bacon. In order to encourage exports of pork products to dollar areas, exporters receive premiums equal to 8 percent of the sales as bonuses for earning dollars. The premiums, therefore, amount to a subsidy on all exports from Denmark to dollar areas.

Denmark's success in marketing meat and meat products also has been due to the availability of unusually good storage facilities, where products can be packaged cured and stored for export. Most of the exports of meat and meat products are handled by cooperatives. The price received by the cooperatives can be easily equalized with respect to over all sales which makes equitable payments possible to the producers.

With regard to imports of meat and meat products only negligible quantities are involved mostly for re-shipments to other countries. However, considerable quantities of casings are imported into the country. In 1955 the U. S. exports of casings to Denmark totaled 103.5 metric tons, almost five times larger than the previous year.

Both tariff and sanitary regulations of the country are very strict and this makes it extremely difficult to import livestock products which are similar to locally produced products. Limited foreign exchange especially dollars has been a barrier to imports from hard currency areas. However recently there has been a slight improvement in this situation.

IV. How Important is Denmark in International Trade of Meat and Meat Products

Denmark shared in the world exports of meat to the extend of 23 percent in 1954 compared with 14 percent in the prewar period, while world exports in 1954 showed a very little increase over prewar. Data on Table II on production and exports of meat and meat products reflect the tremendous increase in the livestock industry.

The overall export of beef and veal and cattle in terms of live animals reached an all time high in 1955. The 1955 exports totalled 481,000 head compared to 424,000 in 1954 and 206,000 during the prewar average (1935-39). This tremendous increase in exports is partly explained by a reduction in the domestic consumption of almost 25 percent. It is especially important to note that during 1955 the export of breeding stock in terms of value almost doubled, primarily because of new outlets for breeding cattle in underdeveloped countries. Meat in 1955 made up 81 percent of the total export of livestock and meat products.

The substantial increase in exports in the last two years was due to an increase in the number of calves fattened for the market. Almost all of these calves were exported to Italy and during the last two years the number exported to that country doubled making it the largest market for this type of livestock. On the other hand, the export of fresh and frozen beef and veal to all countries during 1955 declined by 14,000 tons from the previous year. This reduction of exports was occasioned by the smaller demand of the USSR, East Germany, Czechoslovakia and Sweden. While these

markets lost their importance temporarily a new market was found for part of the unsold meat. Spain in the latter part of 1955 imported from Denmark for the first time substantial quantities of beef and veal. This new market came about as a result of Denmark's inability to supply the usual quantity of potatoes included in the trade agreement between the two countries and a substitute was made in shipment of Danish meat. The largest market during 1955, for Danish cattle, was Western Germany which has increased such imports by 65 percent over the previous year.

The 1955 export of live hogs, pork and pork products was the largest in the postwar period. The total exports totalled 357,000 metric tons or about two-thirds of the total production. This large export again emphasizes Denmark's dependence on foreign outlets for her livestock, meat and meat products. The largest portion of the export (237,000 metric tons) was shipped to the United Kingdom. Exports of fresh and frozen pork, were 17 percent higher in 1955 than in 1954. The export of live hogs during 1955 declined from 1954. Most of these shipments went to Western Germany.

Although the total exports of canned meat was larger than the previous year, the export of hams declined. The increased exports of canned meat were primarily due to large shipments of luncheon meat to the British market. In terms of value, the canned ham and luncheon meat made up 4.6 and 36 percent, respectively, of the total export of canned meat. The remainder was made up of a variety of products such as picnic hams, pork and various by-products. As a result of the reduced price of luncheon meat in the international market larger exports were possible during 1955.

The United States pork production reached record proportions in 1955, causing a decline in prices which also brought about a reduction in Danish ham exports to U. S. In Europe however, the United Kingdom-Danish bacon agreement caused the price of bacon to increase and this meant higher prices for hogs. Despite continued low prices and losses sustained by the meat factories, hams continued to be produced in order to hold the U. S. market, hoping that the market conditions might improve.

Because of the unfavorable market developments in the meat canning industry the Danes are somewhat disturbed but not as yet discouraged. Their hope is that continuous improvement in the quality of canned meat as well as expanded sales promotion efforts will overcome the present difficulties.

The Danes during the 1956 production year feel the sensitivity of the market more than they did in previous years. The pork supplies in the United Kingdom, and the commonwealth countries are important sources which could compete more effectively with Danish production because of the imposition of the 10 percent tariff rate on Danish imports by the United Kingdom.

In 1955 Danish exports of cattle were 134 percent, beef and veal 175 percent, and pork 53 percent as compared with 1938. Additional markets were necessary to absorb the increased production. (See Table III).

V. The Effect of Danish Exports on U. S. Traditional Markets

Many of the U. S. traditional markets in meat and meat products were temporarily lost to Danish exports. Denmark has become one of the United States keenest competitors in the European market. The formation of the Office of European Economic Cooperation and the initiation of trade agreements with almost all European countries has made it difficult for the United States to maintain traditional markets. Dollar shortage also was a significant factor in loss or reduction of exports to the European markets but the fact that Denmark could supply the needs of the European markets was the significant contributing factor in the reduction of U. S. exports. (see tables IV & V.

Before World War II, Denmark was producing only sufficient surpluses for European customers but since the war, in addition to expanding European markets has entered the South American and Caribbean markets with a considerable degree of success.

Denmark exports considerable quantities of pork, pork products and offals to European markets which compete directly with U. S. in these products. (see tables IV & V.

Denmark: Exports by destination of cattle, hogs, beef and veal and pork, 1938 and 1952-1955

Destination	1938	1952	1953	1954	1955
(Numbers)					
<u>Cattle</u>					
Western Germany)	120,860	183,200	195,471	166,874	278,806
Eastern Germany)		2,224	6,450	14,634	16,754
Netherlands	--	25,889	13,962	2,772	2,257
Belgium	11,987	16	288	42	10
Italy	485	239	2,385	4,369	5,791
Switzerland	730	2,930	1,001	998	5,443
Czechoslovakia	--	--	1,299	13,685	3,123
Other countries	5	1,847	1,635	841	1,178
Total	134,067	216,345	222,491	204,215	313,362
<u>Beef and Veal</u>					
(Metric Tons)					
United Kingdom	1	19	1,004	147	60
Western Germany)		6,919	1,857	2,349	4,876
Eastern Germany)	3,062	1,195	662	8,101	1,445
Sweden	--	1,129	8,797	11,824	6,422
U.S.S.R.	--	--	5,811	10,562	1,965
Czechoslovakia	--	--	213	5,047	1,503
Netherlands	8,395	370	2,701	1,631	1,025
Belgium	2,831	160	690	116	12
France	1	4,964	4,359	75	224
Italy	343	16,629	13,460	11,108	19,960
Other countries	299	2,736	2,319	3,925	3,548
Total	14,932	34,121	41,873	54,885	41,040
<u>Pork</u>					
(Metric Tons)					
United Kingdom	171,368	175,575	225,122	219,206	235,865
Western Germany)		4,157	3,469	3,827	2,937
Eastern Germany)	4,268	76	60	418	--
U.S.S.R.	--	4,228	5,036	377	2,233
France	6	1,401	1,056	6,755	13,058
Sweden	14	127	3,369	6,949	4,517
Czechoslovakia	--	--	--	5,728	2,028
Other Countries	134	1,289	2,555	6,073	8,909
Total	175,790	186,853	240,667	249,333	269,547

Table II Production and Exports of Meat and Meat Products
Prewar (1935-39) and 1955

Commodity	1935-39	1955	Percentage of in- crease or decrease over prewar
	<u>1000 tons</u>		
Pork production	325	510	+ 57
Exports of pork	176	270	+ 54
Exports of cattle (numbers)	134,058	313,362	+134
Production of beef & veal	173	226	+ 30
Exports of fresh & chilled beef and veal	15	41	+173
Export of offals	9	25	+177

Table III

DENMARK

Production and Exports of Cattle, Meat and Meat Products

	1938	1952	1953	1954	1955
- - - - - Numbers - - - - -					
Cattle Production	3,200,000	3,100,000	3,100,000	3,152,000	3,178,000
Cattle Exports	134,067	216,345	222,491	204,215	313,362
<u>Metric tons</u>					
Beef and Veal production	173,000	177,000	188,000	199,000	226,000
Beef and Veal Export	14,932	34,121	41,878	54,885	41,040
Pork production	325,000	375,000	471,000	516,000	530,000
Pork exports	175,790	186,853	240,667	249,333	269,547
Lard production	13,600	17,300	21,800	23,200	24,100
Lard exports	11,370	9,270	12,450	16,680	15,360
Tallow production	19,100	14,500	20,000	20,000	20,000
Tallow exports	2,820	4,540	4,820	5,180	6,410
Offals production	24,900	25,800	30,100	32,300	32,500 ^{1/}
Offals exports	9,000	13,300	19,000	24,700	25,000 ^{1/}

^{1/} Estimated.

Table IV.

A Comparison of U. S. Exports with Denmark in 1938 and 1954

A Comparison of U. S. Exports with Danish during 1938 and 1954

Bacon & Hams	1938 (in 1,000 tons)	1954
Danish	171.4	212.7
U. S.	28.4	7
<hr/> Pork <hr/>		
Danish	3.8	36.6
U. S.	9.4	14.6
<hr/> Canned Meat <hr/>		
Danish	6.6	43.4
U. S.	5.5	7.4
<hr/> Offals <hr/>		
Danish	9.0	24.7
U. S.	7.2	20.5

Table V.

Exports by U. S. and Denmark to the United Kingdom Market

Pork	1938 (in 1,000 tons)	1954
Danish	--	5.4
U. S.	3.1	--
<hr/> Canned Meat <hr/>		
Danish	2.3	21.5
U. S.	4.1	--
<hr/> Offals <hr/>		
Danish	.7	2.6
U. S.	6.8	0.1